

# PRESENTATION

## OVERVIEW OF THE DIFFERENT MODELS

The Gentec-EO monitors come in various sizes and types to cover all applications. We have monitors with or without display (PC-based) and for power or energy readings, or both. We also offer the fastest digital needle display on the market.

MONITORS  
ENERGY DETECTORS  
POWER DETECTORS  
HIGH POWER SOLUTIONS  
PHOTO DETECTORS  
THZ DETECTORS  
OEM DETECTORS  
SPECIAL PRODUCTS  
BEAM DIAGNOSTICS



### MAESTRO

The MAESTRO Power & Energy Meter is our top of the line display monitor with an extra-large 5.6in color LCD display and fully touch screen controls. With its unique user interface and faster electronics, it will do more, in less time, and with less effort than any other meter on the market!



COLOR LCD



See page 20

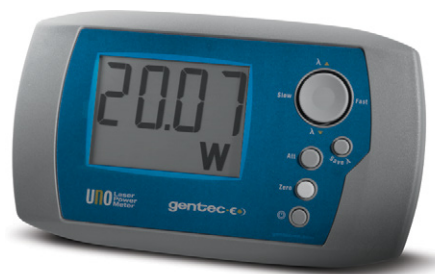


### TUNER

This Power Meter presents both a large LCD display and an ultrafast needle, up to 10X faster than anything else on the market. It comes with more features than the competition, like min and max holds for both displays, comet tail needle and bar graph function. The TUNER comes in Gentec-EO's ergonomic design, with a large LCD display and easy to use direct access keys.

■ ULTRA-FAST TUNING NEEDLE

See page 24



### UNO

The UNO is a simple Power Meter, with large contrast fields and direct access buttons. Its extremely low power consumption allows it to work on standard alkaline batteries, making it the monitor of choice for service technicians working in the field. With the lowest price for a display meter, the UNO is the perfect choice when looking for a reliable, entry-level power meter.

■ ECONOMICAL POWER METER

See page 26



### S-LINK, P-LINK & M-LINK

The S-LINK, P-LINK and M-LINK are PC-Based Power or Energy monitors that come with unique software applications. The S-LINK comes with 1 or 2 channels and measures energy detectors at a very fast rate. It comes with a USB interface, Ethernet being available in option. The P-LINK is a small power meter, available with either a USB or RS-232 interface. A 4-Channel version is also available. As for the M-LINK, it is a Universal Power & Energy Meter that measures ALL the detectors in our product range and features a unique noise suppression method.

■ PC-BASED POWER OR ENERGY METERS

See page 28, 30 and 32

# COMPARISON TABLE



See page 36

## integra ALL-IN-ONE DETECTOR + METER

The INTEGRA is a meterless line of All-in-One detectors that combine a detector and a meter in one convenient product. The small but powerful meter of the INTEGRA Series presents a direct USB connection so you can plug it into your PC. Simply use the PC-Gentec-EO software supplied with your product! Available on all our most popular products, with either a USB or RS-232 interface and with or without External Trigger.

**Watch out for the INTEGRA logo to identify the products available with INTEGRA.**



## WIRELESS LASER POWER METER

This new line of All-in-One detectors combine a detector and a meter with Bluetooth connectivity in one convenient product. The small but powerful meter of the BLU Series presents a Bluetooth connection so you can display the results on your mobile device with the Gentec-EO BLU app available for both iOS and Android systems. Need to use it with a PC? Simply plug in the included Bluetooth receptor and be ready to make power or energy measurements within seconds!

**Watch out for the BLU logo to identify the products available with BLU.**



See page 38

### COMPARISON TABLE



	MAESTRO	TUNER	UNO	S-LINK	P-LINK	M-LINK	INTEGRA	BLU
<b>DETECTOR COMPATIBILITY</b>								
Power (Thermopiles)	●	●	●	●	●	●	●	●
Power (Pyroelectrics -B)	●					●		
Power (Photo Detector)	●	●	●		●	●	●	
Power (Photo Detector -B)	●			●		●		
Power (THZ-D Detector)	●					●		
Energy (All Pyroelectrics)	●			●		●	●	
Energy (Thermopiles in Single Shot)	●			●	●	●	●	
Energy (Photo Detector -B)	●			●		●	●	
<b>DISPLAY</b>								
	5.6in LCD Touch Screen	3.8in LCD With Tuning Needle	3.8in LCD 32 mm Digits	None	None	None	None	None
<b>PC INTERFACE</b>								
	●			●	●	●	●	●
<b>OUTPUTS</b>								
USB	●			●	Standard	●	●	
USB Key Port	●							
RS-232	●			Optional	Optional		Optional	
Analog Output	●	●			●	●		
Ethernet	●			Optional				
Bluetooth								●
<b>EXTERNAL TRIGGER</b>								
	●			●		●	Optional	
<b>FULL STATISTICAL FUNCTIONS</b>								
	●			●	●	●	●	●
<b>MAX REPETITION RATE</b>								
	2 kHz (10 kHz sampling)			10 kHz/Channel		1 kHz	6 kHz	6.8 Hz
<b>NUMBER OF CHANNELS</b>								
	1	1	1	1 or 2	1	1	1	1
<b>PRODUCT PAGE</b>								
	20	24	26	28	30	32	36	38

Some exceptions apply, see p.63

# S-LINK

Dual & Single Channel, PC-Based Power and Energy Monitor



## KEY FEATURES

- 1. READS BOTH POWER AND ENERGY**  
Thermopiles and pyroelectrics
- 2. AVAILABLE WITH 1 OR 2 CHANNELS**  
S-LINK-1 and S-LINK-2 models now available
- 3. PC-BASED**  
Connects to your PC with included software
- 4. SERIAL COMMANDS**  
Serial commands are available on all versions to let you take full control
- 5. FASTEST DATA TRANSFER RATE**  
Get all the points transferred directly into your PC at 10 kHz/Channel
- 6. USB OR ETHERNET**  
Choose your favourite communications port. The USB version is port-powered
- 7. EXTERNAL TRIGGER**  
Every model comes standard with a 2.4 V to 24 V external trigger

## AVAILABLE MODELS



S-LINK-1  
(USB)

S-LINK-1  
(Ethernet)

S-LINK-2  
(USB)

S-LINK-2  
(Ethernet)

## ACCESSORIES



Additional 9V Power Supply  
(Model Number: 200960)



USB Cable  
(Model Number: 202373)



Protective Pouch  
(Model Number: 200128)



Pelican Carrying Case

## SEE ALSO

ENERGY DETECTORS	40
POWER DETECTORS	66
HIGH POWER DETECTORS	102
THZ DETECTORS	132
OEM DETECTORS	148
LIST OF ALL ACCESSORIES	194

## S-LINK



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

	S-LINK-1	S-LINK-2		
<b>DETECTOR TYPES</b>	Thermopiles, Pyroelectrics			
<b>CHANNELS / DISPLAY</b>	1-Channel / PC-Based	2-Channels / PC-Based		
<b>POWER METER SPECIFICATIONS</b>				
Power Range	1 $\mu$ W to 10 kW	1 $\mu$ W to 10 kW		
Monitor Accuracy	$\pm 0.75$ % for 10 % to full scale	$\pm 0.75$ % for 10 % to full scale		
Statistics	Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Time	Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Time		
Response Time	1 sec	1 sec		
<b>ENERGY METER SPECIFICATIONS</b>				
Energy Range	8 fJ to 20 kJ	8 fJ to 20 kJ		
Resolution (Digital)	Normal Mode: Current scale/4096	Normal Mode: Current scale/4096		
Monitor Accuracy				
<500 Hz (MB), <1200 Hz (MT)	1 %	1 %		
500 to 1 200 Hz (MB)	2 %	2 %		
1 200 to 6 000 Hz (MT)	3 %	3 %		
6 000 to 10 000 Hz (MT)	6 %	6 %		
Real Time Data Transfer	10 kHz in normal mode, no missing point	10 kHz/Channel in normal mode, no missing point		
Statistics	Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Pulse #, Repetition Rate, Average Power			
<b>DETECTOR COMPATIBILITY</b>				
Thermopile	Average Power & Single Shot Energy	Average Power & Single Shot Energy		
Pyroelectric	Pulse Energy	Pulse Energy		
<b>GENERAL SPECIFICATIONS</b>				
Number of Channels	1	2		
Digital Display	Computer Screen	Computer Screen		
Data Display	Real Time, Ratio, Line Plot, Histogram, Statistics and 3D Histogram	Real Time, Ratio, Line Plot, Histogram, Statistics and 3D Histogram		
Serial Commands and Data Transfer Via	USB (standard) or Ethernet (option) <sup>a</sup>	USB (standard) or Ethernet (option) <sup>a</sup>		
Real Time Data Transfer Rate	10 kHz/Channel in normal mode, no missing point (for pyroelectrics only) <sup>b</sup>	10 kHz/Channel in normal mode, no missing point (for pyroelectrics only) <sup>b</sup>		
Rising Edge External Trigger	3-24 V @ 13 mA, optically isolated	3-24 V @ 13 mA, optically isolated		
Dimensions	106W x 34H x 147D mm	106W x 34H x 147D mm		
Weight	0.424 kg	0.424 kg		
Ext. Power Supply (Ethernet version only)	100/240 VAC 50-60 Hz to 9 VDC 1.66 A	100/240 VAC 50-60 Hz to 9 VDC 1.66 A		
<b>ORDERING INFORMATION</b>				
	1 channel	1 channel	2 channels	2 channels
Product Name	S-LINK-1	S-LINK-1 (Ethernet) <sup>a</sup>	S-LINK-2	S-LINK-2 (Ethernet) <sup>a</sup>
Product Number	202225	202226	201030	201170

Specifications are subject to change without notice

a. The Ethernet version also includes the USB output.

b. Actual rate may depend on the computer.

# P-LINK

1 and 4 Channels, PC-Based Power Monitors



## KEY FEATURES

1. **READS ALL POWER DETECTORS TYPES**  
Thermopiles and photo detectors of the PH Series
2. **PC-BASED**  
Connects to your PC with included software
3. **MULTI-CHANNEL CAPABILITIES**  
Available with 1 or 4 channels
4. **SERIAL COMMANDS**  
Serial commands are available on both versions to let you take full control
5. **REAL-TIME STATISTICAL FUNCTIONS**  
Max, Min, Average, Standard Deviation, RMS and PTP Stability. Also High Low Alarm and Post-Analysis Mode (P-LINK-4 only)
6. **USB, RS-232 OR ETHERNET**  
Choose your favourite communications port. The USB version is port-powered. Ethernet available only on 4-Channel version

## AVAILABLE MODELS



P-LINK (USB)



P-LINK (RS-232)



P-LINK-4

## ACCESSORIES



Additional 9V Power Supply  
(RS-232 version only)



USB & RS-232 Cables



Protective Pouch  
(Model Number: 200128)



Pelican Carrying Case

## SEE ALSO

POWER DETECTORS	<b>66</b>
HIGH POWER DETECTORS	<b>102</b>
PHOTO DETECTORS	<b>116</b>
THZ DETECTORS	<b>132</b>
OEM DETECTORS	<b>148</b>
LIST OF ALL ACCESSORIES	<b>194</b>

Watch the Quick-Start video available on our website at [www.gentec-eo.com](http://www.gentec-eo.com)

# P-LINK



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

	P-LINK		P-LINK-4	
<b>DETECTOR TYPES</b>	Thermopiles, Photo Detectors		Thermopiles, Photo Detectors	
<b>CHANNELS / DISPLAY</b>	1-Channel / PC-Based		4-Channel / PC-Based	
<b>POWER METER SPECIFICATIONS</b>				
Power Range				
Thermopile	3 $\mu$ W to 10 kW		3 $\mu$ W to 30 kW	
Photo Detector	1 nW to 3 W		1 pW to 3 W	
Monitor Accuracy	$\pm$ 0.5 % full scale		$\pm$ 0.5 % full scale	
Statistics	<sup>a</sup> Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Time		<sup>b</sup> Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Time	
Response Time	1 sec		1 sec	
<b>DETECTOR COMPATIBILITY</b>				
Thermopile	Average Power & Single Shot Energy		Average Power	
Photo Detector	Average Power (mW, dBm)		Average Power (mW)	
<b>GENERAL SPECIFICATIONS</b>				
Number of Channels	1		4	
Digital Display	Computer Screen		Computer Screen	
Data Display	<sup>a</sup> Real Time, Histogram, Statistics, Digital Tuning Needle		<sup>b</sup> Real Time, Graphic, Statistics, High/Low Alarm, Post-Analysis Mode, Multi-Channel	
Analog Output	0 - 2 Volt, Adjustable, Full Scale, $\pm$ 1 %		N/A	
Serial Commands and Data Transfer Via	USB (standard) or RS-232 (option)		USB (standard) or Ethernet (option)	
Real Time Data Transfer Rate	10 Hz		10 Hz	
Dimensions	57W x 26H x 91D mm		286W x 233H x 43D mm	
Weight	0.12 kg		2.5 kg	
External Power Supply (RS-232 and Ethernet versions only)	100/240 VAC 50-60 Hz to 12 VDC 200 mA		100/240 VAC 50-60 Hz to 5 VDC, 3 A	
<b>ORDERING INFORMATION</b>				
	1 Channel	1 Channel	4 Channels	4 Channels
Product Name	P-LINK (USB)	P-LINK (RS-232)	P-LINK-4 (USB)	P-LINK-4 (Ethernet)
Product Number	200439	200440	202223	203485

Specifications are subject to change without notice

- a. Using PC-LINK software.  
b. Using Octolink software.



# M-LINK

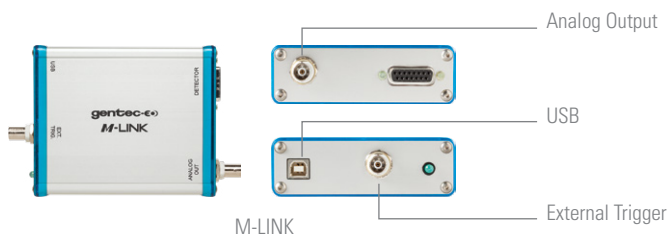
Single Channel, PC-Based Universal Power and Energy Monitor



## KEY FEATURES

- 1. THE UNIVERSAL PC-BASED METER**  
Reads ALL Heads:
  - Power: Thermopiles, Photo Detectors and Pyroelectrics
  - Energy: Thermopiles (in single shot mode), Photo Detectors and Pyroelectrics
- 2. MEASURE fJ ENERGY LEVELS**  
Thanks to a unique digital method for suppressing the noise on the lower ranges
- 3. EXTERNAL TRIGGER**  
Synchronize your M-LINK to your pulsed laser or digital chopper
- 4. DIGITAL (USB) OUTPUT**  
Connect the M-LINK module directly to your PC
- 5. POWERFUL LABVIEW SOFTWARE**  
Features include:
  - Complete instrument controls: Range, Trigger, Wavelength, etc.
  - Live display in J and J/cm<sup>2</sup> or W and W/cm<sup>2</sup>
  - Full Statistics: Min, Max, Mean, Standard Deviation, RMS Stability, Repetition Rate, etc.
  - Graphic Displays: Strip Chart, Histogram, Tuning Needle and more
  - Data File Collection and Analysis

## AVAILABLE MODELS



## ACCESSORIES



USB Cable  
(Model Number: 202373)



Pelican Carrying Case

## SEE ALSO

ENERGY DETECTORS	40
POWER DETECTORS	66
HIGH POWER DETECTORS	102
PHOTO DETECTORS	116
THZ DETECTORS	132
DÉTECTEURS OEM	148
LIST OF ALL ACCESSORIES	194

Watch the Demo video available on our website at  
[www.gentec-eo.com](http://www.gentec-eo.com)

# M-LINK



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

### M-LINK

<b>DETECTOR TYPES</b>	ALL MODELS: Thermopiles, Pyroelectrics, Photo Detectors
<b>DISPLAY</b>	PC-Based

#### POWER METER SPECIFICATIONS

Power Range	4 pW to 30 kW
Resolution (Digital)	Current Scale/3000
Monitor Accuracy	$\pm 0.5\% \pm 2$ digits
Statistics	Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Time

#### ENERGY METER SPECIFICATIONS

Energy Range	30 fJ to 30 kJ
Resolution (Digital)	Current Scale/3000
Monitor Accuracy	1 % $\pm$ 2 digits (<1 kHz)
Software Trigger Level	0.1 to 99.9 %, 0.1 % resolution, default 2 %
Repetition Rate <sup>a</sup>	1 000 Hz
Real Time Data Transfer	1 000 Hz with time stamp, no missing point
Statistics	Current Value, Max, Min, Average, Std Dev., RMS & PTP Stability, Pulse #, Repetition Rate, Average Power

#### DETECTOR COMPATIBILITY

Thermopile	Average Power & Single Shot Energy
Pyroelectric	Pulse Energy & Average Power
Photo Detectors	Average Power & Pulse Energy

#### GENERAL SPECIFICATIONS

Digital Display	Computer Screen
Data Display	Real Time, Scope, Averaging, Statistics and Digital Tuning Needle
Serial Commands and Data Transfer Via	USB
Real Time Data Transfer Rate	1 000 Hz with time stamp, no missing point (for pyroelectrics only)
Analog Output	0-2 Volts, Full Scale, $\pm 2\%$ (joulemeters) $\pm 4\%$ (wattmeters)
Rising or Falling Edge External Trigger	4.5 to 10 V @ 20 mA, optically isolated
Dimensions	106W x 34H x 147D mm
Weight	0.424 kg

#### ORDERING INFORMATION

Product Name	M-LINK
Product Number	201850

Specifications are subject to change without notice

a. Maximum repetition rate may vary with PC and detector speeds.



# M-LINK

MONITORS

ENERGY DETECTORS

POWER DETECTORS

HIGH POWER SOLUTIONS

PHOTO DETECTORS

THZ DETECTORS

OEM DETECTORS

SPECIAL PRODUCTS

BEAM DIAGNOSTICS



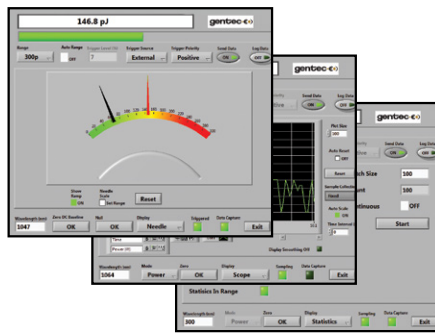
## PC-BASED UNIVERSAL POWER/ENERGY MONITOR

This PC-Based monitor is compatible with ALL types of detectors - including thermopiles, pyroelectrics and photo detectors - for both power and energy measurements. The device is available as a single channel unit that directly interfaces with a computer using a USB2.0 connection. The LabView software is included and comes with all the necessary features. The M-LINK also presents a unique digital technique of suppressing the noise, thereby extending the measurement range all the way down to the fJ level.

## VERSATILE SOFTWARE FOR THE UNIVERSAL M-LINK

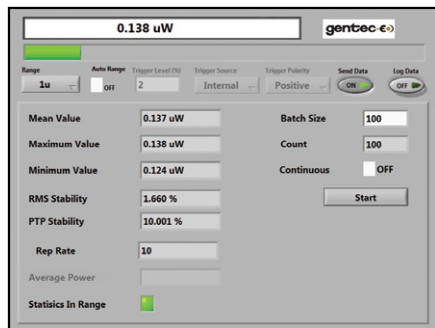
What makes the M-LINK so universal is its compatibility with every detector type and model we make, and our smart software that recognizes the type of detector attached, and configures itself accordingly. Some of the basic software features include:

- Live Digital Reading
- Full Statistics
- Strip Chart
- Histogram
- Analog Tuning
- Data Logging



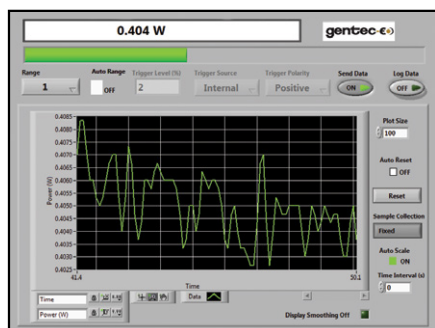
## MEASURE POWER WITH A PHOTO DETECTOR

If you need to measure low power levels, from pW to mW, then we recommend one of our PH or PH-B detectors. In the software screen shown on the left, we have taken a data set working in the **“STATS”** display mode. We have set the batch size to 100 data points in the manual reset mode. You can see the live power (138 nW) and full complement of statistics: mean, max, min, RMS and PTP stability. In the bottom left hand corner you will note that a wavelength of 300 nm is displayed. This is where you will enter the wavelength of your laser and engage the wavelength correction factor.



## MEASURE POWER WITH A THERMOPILE DETECTOR

You can select any of our Thermal Detectors to measure your laser power from a few  $\mu$ W up to 30 kW. We used one of our most sensitive thermopile detectors, model XLP12-3S-H2, to generate the software screen shown on the left. We have selected the **“SCOPE”** mode, where you can view the live power reading (0.404 W), a bar graph and a strip chart while monitoring the power. This high level screen also provides access to range, trigger, auto scale, and many other monitor functions.



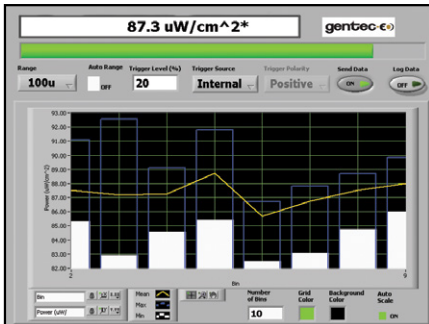
## M-LINK

CE NIST\*  
Traceable



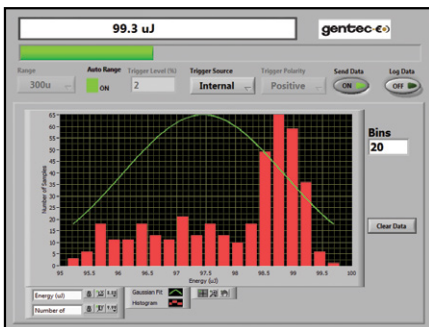
\*Also traceable to NRC-CNRC

## MEASURE POWER WITH A PYROELECTRIC DETECTOR



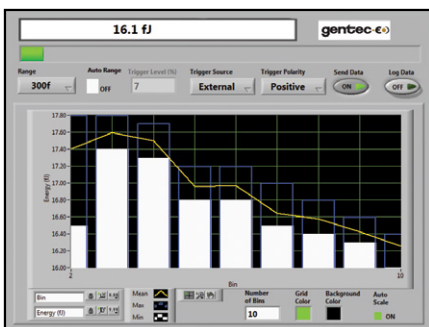
Need to measure the Radiant Flux (Watts) or Irradiance ( $W/cm^2$ ) of a broadband source like the sun, a lamp, a temperature controlled black body and/or a mid or far-IR laser? Our broadband pyroelectric detectors of the UM-B Series would be a great choice. To make the measurement that is displayed on the left, we set up our UM9B-BL detector with M-LINK, an SDC-500 Chopper running 10 Hz and our 725 °C Black Body Source. The M-LINK recognizes the UM9B-BL detector, sets the wavelength to 633 nm where it is calibrated and prepares it to measure the voltage square wave it generates. We have engaged the area correction as the 9 mm detector is over filled with radiation. We are therefore measuring Irradiance in  $W/cm^2$ .

## MEASURE ENERGY WITH A PYROELECTRIC DETECTOR



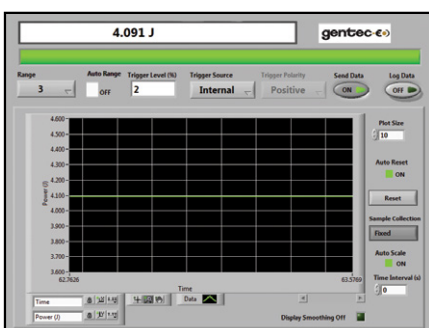
You can select one of our many large area Pyroelectric Detectors of the QE Series for energy measurements ranging from 50 nJ to 250 J and from DUV to Far IR. To demonstrate this capability, we have selected our QE8SP-B-BL and the M-LINK. We are looking at the **"HISTOGRAM"** screen, where you can continue to view the live measurement and a histogram that shows the energy distribution of your data set, along with a best-fit Gaussian curve. Note that you still have access to the instrument controls, like range, trigger, wavelength, etc.

## MEASURE AT THE fJ LEVEL WITH A PE-B DETECTOR



For measurements in the fJ to  $\mu J$  range, and from UV to Near-IR we suggest our PE3B-Si detector. It represents the state-of-the-art in low-end energy detector technology. Take advantage of our proprietary pulse averaging, noise reduction techniques available with M-LINK. In the example shown at the right, we have captured a data set while running in the **"AVERAGING"** mode. The bars represent minimum (white) and maximum (blue) energy values. The strip chart is based on the average energy value. You get to select the number of "BINS" represented here. "Pulse Averaging" is available in the Statistics screen.

## MEASURE A HIGH ENERGY PULSE WITH A UP DETECTOR



If you are trying to measure a relatively high energy (Joules) single pulse (up to 300 msec long), you will select one of our Thermopile Power detectors (like the UP50-W9), have it calibrated in single shot mode and use the M-LINK to make the measurement. In the screen at the right, we have captured a long pulse that had a duration of a few hundred milliseconds and are displaying the energy in the **"SCOPE"** screen. Using a variety of our thermopile detectors, you can measure from 12  $\mu J$  to 500 J in a single pulse.